CLAIMS:

1. Digital amplifier for converting an audio signal to a power output comprising: a power supply port; a bridge circuit with at least one pair of switches; and a ripple suppression circuit for suppressing voltage ripples in a supply voltage supplied to the bridge circuit with at least one pair of switches via the voltage supply port; wherein the ripple suppression circuit is arranged between the power supply port and the bridge circuit with at least one pair of switches.

2. The digital amplifier according to claim 1, wherein the ripple suppression circuit comprises a linearly controlled voltage controller.

3. The digital amplifier according to claim 2, wherein the controlled voltage controller is for multiple channels of the amplifier; wherein the least one pair of switches is configured as an H-bridge; and wherein a coarse supply voltage setting is applied in front of the controlled voltage controller.

4. The digital amplifier according to claim 1, wherein the switches are transistors; wherein the ripple suppression circuit is connected to a first transistor of the at least one pair of transistors; and wherein the ripple suppression circuit is configured to drive the first transistor of the at least one pair of transistors in a linear region of the first transistor.

5. The digital amplifier of claim 4, wherein the ripple suppression circuit is configured to generate an error signal on the basis of a comparison of a voltage at the power supply port to a reference voltage and a voltage drop over a second transistor of the at least one pair of transistors and to control a gate voltage of the first transistor on the basis of the error signal to drive the first transistor in the linear region.

6. The digital amplifier of claim 4, wherein the ripple suppression circuit comprises a band pass filter for limiting the bandwidth of the ripple suppression circuit to reduce requirements for a control loop; and wherein the ripple suppression circuit further comprises a sample and hold circuit for sampling a voltage at the power supply port at duty cycles.

7. The digital amplifier of claim 4, further comprising a reference voltage source which generates the reference voltage on the basis of a voltage at the power supply port to ensure a required compensation margin.

8. The digital amplifier according to claim 1, wherein at least one pair of switches comprises power transistors and wherein the power transistors and the ripple suppression circuit are integrated in a module or integrated circuit.

9. The digital amplifier according to claim 1, wherein a compensation margin of the ripple suppression circuit is adapted to an output power of the amplifier such that it is low at a high output power of the amplifier and wherein the digital amplifier is a class D amplifier.

10. A ripple suppression circuit for connection between a power supply and a class D amplifier, the ripple suppression circuit comprising a linearly controlled voltage controller.

11. A ripple suppression circuit for connection between a power supply and a class D amplifier, the class D amplifier including at least one pair of transistors, wherein the ripple suppression circuit is connected to a first transistor of the at least one pair of transistors, and wherein the ripple suppression circuit is configured to drive the first transistor of the at least one pair of transistors in a linear region of the first transistor.

12. Method for suppressing ripples in a supply power voltage of a class D

amplifier, the method comprising the step of: performing a linear voltage control of the power supply voltage on the power supply line of the class D amplifier.

13. Method for suppressing ripples in a power supply voltage of a class D amplifier, wherein the class D amplifier includes at least one pair of transistors, the method comprising the step of: driving of a first transistor of the at least one pair of transistors in a linear region of the first transistor.